REMARKS

Claims 1 through 27 are still pending in this application.

In the following, the Examiner's comments are included in bold, indented type, followed by the Applicant's remarks:

1. Claims 1-27 remain for examination.

Applicant agrees.

2. Applicant's arguments filed 6/02/03 have been fully considered but they are not persuasive

Applicants argue "Examiner's cited references fails to teach or suggest to person having ordinary skill in the art to perform an analysis of the groups of transactions to find associations in the order of the transactions in the groups ... Anderson discloses generally the steps of grouping data into clusters and analyzing transactions in terms of those clusters to determine relationships between consumers and products (Anderson, Column 2, lines 63-66; column 3, lines 11-15)... Anderson would not, however, have taught or suggested to a person of ordinary skill at the time this application was filed to apply these techniques to perform an analysis of transactions to find associations in the order of the transactions in the group as claimed in claims 1, 14, 20 and 24".

Examiner however disagrees with applicant's assertion that Anderson does not teach an analysis of transactions to find associations in the order of the transactions in the groups (col 3, lines 35-40), and then analyzing the groups to determine buying behaviors, patterns, habits. Anderson further discloses consumer behavior reports show consumer buying across time intervals, stores sites, product clusters, departments and within consumer clusters (col 14, lines 54-60). Examiner has determined that the claimed associations in the order of the transactions are equivalent to the disclosed purchasing behavior (col 4, lines 1-5). Examiner has interpreted purchasing behavior to mean a reliable set of purchases/transactions that are made by a consumer over a period of time. Anderson inherently determines an association exits in the order of the transactions during the computation of the purchasing behavior of a consumer. Examiner therefore holds Anderson's teachings and suggestions render the claimed invention unpatentable.

Applicant respectfully asserts that the Examiner improperly made this office action final. The Examiner argued for the first time in the paragraph immediately above that "Anderson inherently determines an association exists in the order of the transactions during the computation of the purchasing behavior of a consumer." Because this rejection "introduce[d] a new ground of rejection [i.e. inherency] that [was] neither necessitated by applicant's amendment

of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c)," MPEP 706.07(a), it was improper for the Examiner to make this office action final. Applicant respectfully requests that the Examiner withdraw the final rejection and consider the arguments made herein.

> **3. Claim 1-6, 14-22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5878419 issued to Carter, herein referred to as Carter further in view of US 5974396 issued to Anderson et al.**
>
> **Referring to Claims 1 and 20:**
>
> **Carter discloses a method for use in analyzing associations in the order of transactions, the method comprising loading data from the transactions into a database system (col 3, lines 55-68; col 4, lines), where the data includes an entry for each transaction and the transactions are grouped into groups (col 6, lines 40-45; col 8, lines 20-25; col 9, lines 40-50);**
>
> **Carter does not explicitly disclose the claimed "ordering the transactions within each group; and performing an analysis of the groups of transactions to find associations in the order of the transactions in the groups".**
>
> **Anderson discloses ordering the transactions within each group and performing an analysis of the groups of transactions to find associations in the order of the transactions in the groups (col 6, lines 34-45; col, 35-40).**
>
> **At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Carter such that the transaction groups are analyzed to determine associations. One of ordinary skill in the art would have been motivated to do this because it would provide a system that can determine consumer-buying habits (col 6, lines 45-48)**

Applicant respectfully disagrees. Anderson does not disclose performing an analysis of the groups of transactions to find associations in the order of the transactions in the group as required by claims 1 and 20. Instead, Anderson discloses forming "product groupings" (sometimes referred to as "product clusters"), col. 5, lines 55-57, which are groupings of products, such as beverages or pet foods. Col. 10, lines 22-26. Transactions are categorized into product clusters. Col. 10, lines 26-30.

Similarly, Anderson describes "categorizing customers by characteristics [such as demographics, diet, appliance ownership, cultural and other consumer characteristics] into

groups, clusters of 'similar' consumers." Col. 10, line 66 – col. 11, line 3. These "consumer groups" (or "consumer clusters") are "associated with particular product clusters in response to retailer queries." Col. 11, lines 2-5.

The product clusters and consumer clusters are used to determine "relationships between products and consumers as well as the effectiveness of a particular product promotion." Col. 3, lines 15-19. These relationships are analyzed for the purpose of "determining purchasing behaviors of retail customers, determining the effectiveness of promotional efforts with respect to particular products and ascertaining particular characteristics (demographics and otherwise) of consumer purchasing particular products." Col. 4, lines 1-6.

Thus, Anderson's focus is on the relationship between products and consumers. These are the "buying behaviors and patterns" that are "extracted from the cluster data" cited by the Examiner (col. 6, lines 34-45).

This is in contrast to "performing an analysis of groups of transactions to find associations in the order of the transactions in the groups", as required by claims 1 and 20. As indicated in the specification, such analysis is useful, for example, where "a web page owner [is] interested to know that a customer that clicks on a first image on the web page followed by a second image may be more likely to make a purchase than a customer that clicks on the second image before the first image." Page 2, lines 8-11. Anderson, which focuses on the relationship between products and consumers rather than the associations in the order of transactions, does not teach or even hint at such an analysis. As such, Applicant disagrees with the Examiner's conclusion that "the claimed associations in the order of the transactions are equivalent to the disclosed purchasing behavior."[1]

Further, Anderson does not inherently disclose "performing an analysis of groups of transactions to find associations in the order of the transactions in the groups", as suggested by the Examiner. As indicated in MPEP 2112, "'To establish inherency, the extrinsic evidence

[1] Applicant does not see the relevance of, and therefore disagrees with, the Examiner's interpretation that "purchasing behavior [means] a reliable set of purchases/transactions that are made over a period of time."

"must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)." As shown above, Anderson does not even hint at "performing an analysis of groups of transactions to find associations in the order of the transactions in the groups." Consequently, such a feature is not necessarily present in Anderson, as required for inherency. The Examiner admits that this feature is not present in Carter. Thus, the combination of Anderson and Carter does not include this feature and claims 1 or 20 are not obvious in light of the combination of Anderson and Carter, either explicitly or inherently.

Applicant also disagrees with the Examiner's thesis regarding the motivation to combine Anderson and Carter, which is that the combination would "provide a system that can determine consumer-buying habits." First, there would be no motivation to combine Anderson and Carter because, under the Examiner's analysis, Anderson already performs this function without the teachings of Carter. Second, the claimed system does not "determine consumer-buying habits," per se. Instead it performs "an analysis of groups of transactions to find associations in the order of the transactions in the groups." A person of ordinary skill would not be motivated to combine Anderson and Carter as suggested by the Examiner.

For these reasons, applicant respectfully requests that the rejections of claims 1 and 20 be withdrawn.

Referring to Claim 24:

Carter discloses database system for use in analyzing associations in the order of transactions, the database system comprising a massively parallel processing system (col 6, lines 1-6) comprising one or more nodes; a plurality of CPUs, each of the one or more nodes providing access to one or more CPUs (col 5, lines 30-50); a plurality of virtual processes each of the one or more CPUs providing access to one or more virtual processes; each virtual process configured to manage data stored in one of a plurality of data storage facilities (col 5, lines 60-69; col 6, lines 1-10); a parsing engine configured to parse transaction data and store the parsed transaction data in a table that is distributed across two or more data-storage facilities (col 3,

lines 55-68, col 4, lines 1-5), where the data includes an entry for each transaction and the transactions are grouped into groups (col 4, lines 5-15; col 6, lines 40-45; col 8, lines 20-25; col 9, lines 40-50);

Carter does not explicitly disclose the claimed "database-management component configured to operate on the table to order the transactions within each group; and perform an analysis of the groups of transactions to find associations in the order of the transactions in the groups."

Anderson discloses database-management component configured to operate on the table to order the transactions within each group; and perform an analysis of the groups of transactions to find associations in the order of the transactions in the groups (col 6, lines 34-45).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify teachings of Carter such that the transaction groups are analyzed to determine associations. One of ordinary skill in the art would have been motivated to do this because it would provide a system that can determine consumer-buying habits (col 6, lines 45-48).

Claim 24 is patentable for at least the same reasons described above with respect to claims 1 and 20.

Referring to Claim 14:

Carter discloses a method for use in analyzing associations in the order of transactions, the method comprising loading data from the transactions into a database system (col 3, lines 55-68; col 4, lines), where the data includes an entry for each transaction and wherein loading the data comprises grouping the transactions into group (col 6, lines 40-45; col 8, lines 20-25; col 9, lines 40-50);

Carter does not explicitly disclose "selecting sessions of transactions belonging to the same group and corresponding to a single session; ordering the transactions within each session; and performing an analysis of the sessions of transactions to find associations in the order of the transactions in the sessions."

Anderson discloses selecting of transactions belonging to the same group and corresponding to a single session (col 21, lines 55-65); ordering the transactions within each session; and performing an analysis of the sessions of transactions to find associations in the order of the transactions in the sessions (col 22, lines 15-25).

Claim 14 is patentable for at least the same reasons described above with respect to claims 1 and 20. While the Examiner does not provide an argument regarding motivation to

combine, Applicant assumes it is the same as the argument made with respect to claims 1 and 20 and Applicant disagrees for the same reasons.

Referring to Claim 2:

Carter and Anderson disclose the limitations as discussed in Claim 1 above. Anderson further discloses the data for each transaction includes a time stamp related to a time that the transaction occurred and wherein ordering the transactions comprises numbering the transactions based on the time stamps included in the data for the transactions (col 21, lines col 21, lines 45-46).

Claim 2 depends from claim 1 and is patentable for at least the same reasons described above with respect to claims 1 and 20.

Referring to Claim 3:

Carter and Anderson disclose the limitations as discussed in Claim 2 above. Anderson further discloses the transactions comprises numbering the transactions in order from the transaction having the earliest time stamp to the transaction having the latest time stamp (col 21, lines col 21, lines 45-46, col 22, lines 15-20.

Claim 3 depends from claim 1 and is patentable for at least the same reasons described above with respect to claims 1 and 20.

Referring to Claim 4:

Carter and Anderson disclose the limitations as discussed in Claim 1 above. Carter further discloses loading the data from the transactions into the database system comprises parsing the data for each transaction into fields in the database system; and identifying one of the fields as a group identifier field where a group identifier for each transaction is stored (col 8, lines 5-25; col 2, lines 5-20).

Claim 4 depends from claim 1 and is patentable for at least the same reasons described above with respect to claims 1 and 20.

Referring to Claim 5:

Carter and Anderson disclose the limitations as discussed in Claim 4 above. Carter further discloses loading the data from the transactions into the database system further comprises identifying one of the fields as an item identifier field where an item identifier for each transaction is stored (col 9, lines 50-55).

Claim 5 depends from claim 1 and is patentable for at least the same reasons described above with respect to claims 1 and 20.

Referring to Claim 6:

Carter and Anderson disclose the limitations as discussed in Claim 1 above. Carter further discloses wherein performing the analysis comprises performing an affinity analysis (col 6, lines 35-50).

Carter does not disclose the type of affinity analysis claimed in claim 6, an example of which is described beginning on page 13, line 20 of the specification. Further, claim 6 depends from claim 1 and is patentable for at least the same reasons described above with respect to claims 1 and 20.

Referring to Claim 15:

Carter and Anderson disclose the limitations as discussed in Claim 14 above. Anderson further discloses each entry includes a time stamp related to a time that the transaction occurred and selecting comprises selecting entries with time stamps lying in a predetermined range (col 21, lines 45-47).

Claim 15 depends from claim 14 and is patentable for at least the same reasons described above with respect to claim 14.

Referring to Claim 16:

Carter and Anderson disclose the limitations as discussed in Claim 15 above. Anderson further discloses ordering comprises numbering the selected entries based on their respective time stamps (col 21, lines 45-46).

Claim 16 depends from claim 14 and is patentable for at least the same reasons described above with respect to claim 14.

Referring to Claim 17:

Carter and Anderson disclose the limitations as discussed in Claim 16 above. Anderson further discloses numbering comprises numbering the selected entries from the earliest to the latest (col 22, lines 15-20).

Claim 17 depends from claim 14 and is patentable for at least the same reasons described above with respect to claim 14.

Referring to Claim 18:

Carter and Anderson disclose the limitations as discussed in Claim 16 above. Anderson further discloses numbering comprises numbering the selected entries from the latest to the earliest (col 22, lines 15-20).

Claim 18 depends from claim 14 and is patentable for at least the same reasons described above with respect to claim 14.

Referring to Claim 19:

Carter and Anderson disclose the limitations as discussed in Claim 16 above. Anderson further discloses numbering comprises numbering the selected entries based on their respective distance in time from a reference time (col 21, lines 55-60; col 22, lines 15-20).

Claim 19 depends from claim 14 and is patentable for at least the same reasons described above with respect to claim 14.

Referring to Claim 21:

Carter and Anderson disclose the limitations as discussed in Claim 20 above. Anderson further discloses executable instructions that cause a computer to select sessions of transactions belonging to the same group and corresponding to a single session (col 21, lines 55-60).

Claim 21 depends from claim 20 and is patentable for at least the same reasons described above with respect to claims 1 and 20.

Referring to Claim 22:

Carter and Anderson disclose the limitations as discussed in Claim 20 above. Anderson further discloses a time stamp related to a time that the transaction occurred and where, in selecting sessions, the computer selects entries with time stamps lying in a predetermined range (col 21, lines 44-46).

Claim 22 depends from claim 20 and is patentable for at least the same reasons described above with respect to claims 1 and 20.

Referring to Claim 25:

Carter and Anderson disclose the limitations as discussed in Claim 24 above. Anderson further discloses the database-management comp nent is configured to select sessions of transactions belonging to the same group and corresponding to a single session (col 21, lines 55-60).

Claim 25 depends from claim 24 and is patentable for at least the same reasons described above with respect to claim 24.

Referring to Claim 26:

Carter and Anderson disclose the limitations as discussed in Claim 25 above. Anderson further discloses each entry includes a time stamp related to a time that the transaction occurred and where, in selecting sessions, the database management system is configured to select entries with time stamps lying in a predetermined range (col 21, lines 45-50).

Claim 26 depends from claim 24 and is patentable for at least the same reasons described above with respect to claim 24.

4. Claim 7-13, 23 and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5878419 issued to Carter, herein referred to as Carter and US 5974396 issued to Anderson et al as applied to Claims 1 and 20 above, and further in view of US 5241648 issued to Cheng et al, herein referred to as Cheng and US 6061682 issued to Aggarwal, herein referred to as Aggarwal.

Referring to Claims 7, 23 and 27:

Carter and Anderson disclose the limitations as discussed in Claims 1, 20, and 24. Carter further disclose a method wherein loading data from the transactions into the database system comprises parsing the transaction data into fields in a base table in the database system (col 3, lines 55-68; col 4, lines); identifying one of the fields as a group identifier field where a group identifier for each transaction is stored (col 8, lines 22-25; col 9, lines 44-58); identifying one of the fields as an item identifier field where an item identifier for each transaction is stored (col 9, lines 44-58);

Carter and Anderson do not explicitly disclose the claimed "ordering the transactions in each group of transactions comprises concatenating an order number to the item identifier for each transaction and performing the analysis comprises building one or more support tables for one or more item identifiers with concatenated order number; and calculating support, confidence and lift by joining the support tables."

Cheng discloses ordering the transactions in each group of transactions comprises concatenating an order number to the item identifier for each transaction (Abstract, lines 5-14; col 5, lines 1-10).

Aggrawal discloses performing the analysis comprises building one or more support tables for one or more item identifiers with concatenated order number; and calculating support, confidence and lift by joining the support tables (col 9, lines 34-55; col 10, lines 50-55).

> **At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Carter to include an indexing and support/confidence/lift calculation method. One of ordinary skill in the art would have been motivated to do this because it would allow a user to determine associations between transactional items (col 3, lines 25/30).**

Applicant disagrees. Agrawal does not, in the extracts identified by the Examiner, build one or more support tables for one or more item identifiers with concatenated order number, as required by claims 7, 23 and 27. Further, while Agrawal discusses calculating support, col. 9, lines 49-50, the extracts identified by the Examiner do not discuss the calculation of confidence or lift. Applicant requests that the Examiner more particularly identify the portions of Agrawal that describe this element. In addition, claims 7, 23 and 27 depend from claims 1, 20, and 24, respectively, and are patentable for at least the same reasons described above with respect to claims 1, 20 and 24, respectively.

> **Referring to Claim 8:**
>
> **Carter, Anderson, Cheng and Aggrawal disclose the limitations as disclosed in Claim 7 above. Aggrawal further discloses building the one or more support tables comprises counting the transactions containing various combinations of item identifiers with concatenated order number and dividing the count by a total number of groups to obtain a support for each of the combinations (col 8, lines 15-23).**

Claim 8 depends from claim 7 and is patentable for at least the same reasons described above with respect to claim 7, 23 and 27.

> **Referring to Claim 9:**
>
> **Carter, Anderson, Cheng and Aggrawal disclose the limitations as disclosed in Claim 7 above. Aggrawal further discloses building the one or more support tables comprises for each item identifier with concatenated order number, counting the transactions containing the same item identifier with concatenated order number and computing the support by dividing the count by a total number of groups and storing the item identifier with concatenated order number and the support in a first support table (col 8, lines 15-23).**

Claim 9 depends from claim 7 and is patentable for at least the same reasons described above with respect to claim 7, 23 and 27.

Referring to Claim 10:

Carter, Anderson, Cheng an Aggrawal disclose the limitations as disclosed in Claim 9 above. Aggrawal further discloses building the one or more support tables further comprises building a second base table by selecting transactions from the first base table that include an item identifier corresponding to an item identifier and concatenated order numbering having a support more than a predetermined value (col 8, lines 55-65; col 9, lines 30-60, col 9, lines 54-58).

Applicant disagrees that the extracts of Agrawal cited by the Examiner disclose "building a second base table by selecting transactions from the first base table that include an item identifier corresponding to an item identifier and concatenated order number having a support more than a predetermined value" as required by claim 10. Applicant requests that the Examiner more particularly identify the portions of Agrawal that describe this element. Further, claim 10 depends from claim 7 and is patentable for at least the same reasons described above with respect to claim 7, 23 and 27.

Referring to Claim 11:

Carter, Anderson, Cheng and Aggrawal disclose the limitations as disclosed in Claim 10 above. Aggrawal further discloses building the one or more support tables further comprises counting the transactions in the second base table containing various combinations of item identifiers with concatenated order number and dividing the count by a total number of groups in the second base table to obtain a support for each of the combinations (col 8, lines 15-23).

Claim 11 depends from claim 7 and is patentable for at least the same reasons described above with respect to claim 7, 23 and 27.

Referring to Claim 12:

Carter, Anderson, Cheng and Aggrawal disclose the limitations as disclosed in Claim 10 above. Aggrawal further discloses building the one or more support tables further comprises counting the transactions in the second base table containing combinations of two specified item identifiers with concatenated order number and dividing the count by a total number of transactions in the second base table to obtain a support for each of the combinations; and storing the item identifiers and computed support in a two item support table combinations (col 8, lines 15-23).

Claim 12 depends from claim 7 and is patentable for at least the same reasons described above with respect to claim 7, 23 and 27.

Referring to Claim 13:

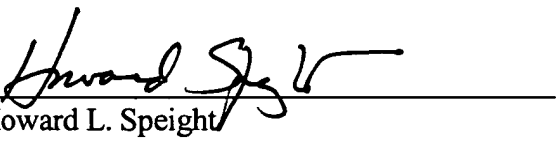
> **Carter, Anderson, Cheng and Aggrawal disclose the limitations as disclosed in Claim 10 above. Aggrawal further discloses building the one or more support tables further comprises counting the transactions in the second base table containing combinations of N specified item identifiers with concatenated order number and dividing the count by a total number of transactions in the second base table to obtain a support for each of the combinations; and storing the item identifiers and computed support in an N item support table combinations (col 8, lines 15-23).**

Claim 13 depends from claim 7 and is patentable for at least the same reasons described above with respect to claim 7, 23 and 27.

SUMMARY

Applicant contends that the claims are in condition for allowance, which action is requested. Applicant does not believe any fees are necessary with the submitting of this response. Should any fees be required, Applicant requests that the fees be debited from deposit account number 50-1673.

Respectfully submitted,



Howard L. Speight
Reg. No. 37,733
Baker Botts L.L.P.
910 Louisiana
Houston, Texas 77002
Telephone: (713) 229-2057
Facsimile: (713) 229-2757
ATTORNEY FOR APPLICANT

Date: